

Cheatgrass

Bromus tectorum



FAMILY	Poaceae- grasses	ORIGIN	Eurasia
LIFE CYCLE	Winter annual	OTHER NAMES	Downy brome, Drooping brome

QUICK FACTS

- This plant gets its competitive advantage from its winter-annual life cycle. It germinates through the cold season, taking up all the soil nutrients and snow-melt... making it extremely difficult for other plants to germinate in the spring.
- Cheatgrass also dies very early in the year; it is usually dead by the summer and fall, leaving behind highly flammable tinder during the hottest part of the year. Across the landscape, cheatgrass has severely worsened and intensified fire regimes.
- Animals can graze on cheatgrass early in the year when the vegetation is still green and soft. However, it dies early in the growing season, and the dried up florets become tough and spiky, potentially injuring or even rupturing the digestive organs of horses and livestock.

If you live in the western US, you are as familiar with cheatgrass as you are with the hassle of picking out their sharp, barbed seeds from your clothes and your dog's fur. *Bromus tectorum*, commonly named downy brome around the world, is one of the most important crop pests for land managers in the country. Since the early 1800's cheatgrass has contributed to the degradation of our rangelands, as well as exacerbated fire regimes throughout the west. Cheatgrass (or downy brome) is a non-native grass that displaces native plants and severely degrades New Mexico's unique ecosystems. It is especially invasive in arid range lands and is credited with the mass destruction of native sagebrush prairie throughout the Western United States.

What does it look like?

Grasses can be typically difficult to tell apart from each other, especially when in their early stages of growth. Cheatgrass can be distinguished, even in its early stages by particularly hairy leaf blades and sheaths. The most common lookalike is Japanese brome (*Bromus japonicus*) which can exist in the same areas as cheatgrass, but usually prefers wetter soils. The two grasses are easier to identify when older, as cheatgrass will have a drooping panicle with long, straight awns, while the awns of Japanese brome are twisted.



Bruce Bosley, Colorado State University, Bugwood.org



Leslie J. Mehrhoff, University of Connecticut, Bugwood.org



Tom Heutte, USDA Forest Service, Bugwood.org



Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Plant: Cheatgrass is a tufted bunchgrass, appearing as solitary bunches or more often as a patch. Individual plants usually grow about 4 to 30 inches tall. When the plants are young, the foliage is soft and green. As cheatgrass matures, the foliage and especially the seed heads become purplish, and later reddish-brown as it dries up. By the time the plant dies, the foliage is brown or tan and the texture becomes very dry, coarse, and spiky.

Leaves: are flat blades with a sheath surrounding the stems; both the leaf and the sheath are densely covered with thin hairs. The base of the leaf blade has a short "collar" – a short translucent membrane of thin hairs called a ligule.

Flowers: While grasses do not have obvious flowers, you will notice the florets, or flowering tops of cheatgrass are dense and slender. They are arranged in a loose, branching cluster of seedheads called a panicle. These seedheads are about 3-6 inches long and have a characteristic drooping behavior, often found nodding along with the breeze.

Seeds: Each awn is attached to a brown, hairy seed which is narrow and about 1/2 inch long .

Impact and Management

Agriculture and Food Security

Agricultural crops face an uphill battle to compete for resources against cheatgrass. In a series of studies, researchers compared the growth of cheatgrass to common agricultural wheatgrasses within the same time frame. Not only did cheatgrass produce nearly double the amount of roots that the wheatgrasses did, but its presence actually reduced the growth of the wheatgrass seedlings (Pellant, 1996). Cheatgrass is also a prolific seed producer in the early part of the growing season, making it difficult to keep at bay once introduced.

Cheatgrass degrades the quality of the land, which lowers crop yield and quality, and ultimately results in a loss of land value for the operator.

Fire Hazard

Cheatgrass dies off early in the year, leaving a cover of dry dead vegetation throughout the hot summer months. The dry foliage easily catches fire, and fire becomes more likely as cheatgrass spreads; “Successive fires become common, and each fire reduces the surviving shrub cover and native seed bank” (USFS Fire Effects). A large infestation can start severe fires, with repeating rounds of fire every 3 to 5 years. If that doesn’t sound frequent, consider that the sagebrush rangelands which cheatgrass thrives in evolved with significant fires occurring only every 32 to 70 years (Pellant, 1989).

Aside from killing off competing vegetation around it, these fires can also spread to neighboring ecosystems, paving the way for further cheatgrass infestations.

Loss of Biodiversity

Ecosystems that host cheatgrass invasions are severely damaged and can no longer support a native plant community. According to the Forest Service, cheatgrass is quick to dominate a new area (sometimes within a year or two after the initial vegetation disturbance), and once established, can remain dominant there for 40 to 80 years (USFS Fire Effects). Restoration efforts become more difficult the longer cheatgrass remains dominant on a site, as the native seed bank within the soil is depleted and replaced by seeds of cheatgrass.

A dense infestation can result in soils covered by mats of dry yellow, preserving the area for the next generation of cheatgrass. When native vegetation is absent, the site becomes unattractive to pollinators and wildlife.

Managing a cheatgrass infestation can be challenging. Here is a short summary of how to think about this challenge and the most important things to keep in mind.

DO's

- Integrate a variety of management strategies; this is not a “one-and-done” weed!
- Focus on preventing the formation and spread of seed
- Mow within a week of flowering to reduce seed production

DON'Ts

- Wait until the problem is out of control – prevention and early detection are key
- Assume that a single herbicide application or burn treatment will fix the issue
- Ignore the plant’s life cycle; timing of treatment must be matched to the specific life cycle of cheatgrass



For more information on managing cheatgrass, please visit www.nmweeds.org

